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October 24, 1996

Hand-Delivered

William F. Caton, Secretary
Federal Communications Commission
Room 222
1919 M Street, N.W.
Washington, D.C. 20554

Re: Ex Parte Presentation in ET Docket No. 95-18

Dear Mr. Secretary:

In accordance with Section 1.1206 of the Commission's rules, this is to notify you that an oral and written ex parte presentation was made this date in connection with the above-referenced proceeding, which involves the proposed allocation of spectrum at 2 GHz for use by the Mobile-Satellite Service (MSS).

Participating in the presentation were representatives of the Association of American Railroads (AAR), Utilities Telecommunications Council (UTC), Association of Public Safety Communications Officers (APCO), American Petroleum Institute (API), and the Cellular Telecommunications Industry Association (CTIA).

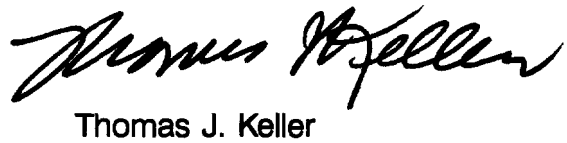
Attending the meeting on behalf of the Commission were the following: Rosalind Allen, Karen Brinkmann, Robert McNamara, Robert James, David Wye and David Horowitz of the Wireless Telecommunications Bureau; Karl Kensinger and Harry Ng of the International Bureau; and Charles Iseman and Rodney Conway of the Office of Engineering and Technology.

The written portion of the presentation consisted of a chronology of the meetings held by the TIA Joint Working Group TR 34/TR 14.11, a copy of which is

enclosed herewith. The oral presentations by AAR, APCO, API, UTC, and CTIA consisted of a reiteration of the arguments set forth in comments and reply comments filed by those parties in the above-referenced proceeding.

Any questions concerning this matter should be directed to the undersigned.

Respectfully submitted,



Thomas J. Keller
Attorney for AAR

Enclosure

cc (w/o encl.):
Rosalind Allen, WTB
Karen Brinkmann, WTB
Robert McNamara, WTB
David Wye, WTB
Robert James, WTB
David Horowitz, WTB
Karl Kensinger, IB
Harry Ng, IB
Brian Fontes, CTIA
Charles Iseman, OET
Rodney Conway, OET
Art Prest, CTIA
Robert Montgomery, CTIA
Jeff Sheldon, UTC
Sean Stokes, UTC
Randy Young, API
John Reardon, API
Robert Gurss, APCO

TIA JOINT TR 34/TR 14.11 WORKING GROUP (JWG)

FEASIBILITY OF FREQUENCY SHARING IN THE 2 GHZ BAND BETWEEN MOBILE SATELLITE SERVICE (MSS) AND FIXED SERVICE (FS) SYSTEMS

CHRONOLOGY OF MEETINGS

Date	Venue	Comment
April 25-26, 1996	COMSAT Mobile Communications Bethesda, Maryland	Mtg prompted formation of the JWG (Tab A)
August 1, 1996	TIA Headquarters Arlington, Virginia	1st Mtg of JWG (Tab B)
August 16, 1996	TIA Headquarters Arlington, Virginia	2nd Mtg of JWG (Tab C)
September 16, 1996	TIA Headquarters Arlington, Virginia	3rd Mtg of JWG (Tab D)
November 20, 1996	TIA Headquarters Arlington, Virginia	4th Mtg of JWG (Scheduled)

A

ICE PRODUCTS

MSS & FS Industry Meeting Related to FCC ET Docket No. 95-18
COMSAT Corporation, Bethesda, Maryland
April 25 & 26, 1996

1. Welcome and Opening Remarks

    a. purpose of the meeting
    b. relationship of industry discussions to FCC Rulemaking
    c. select chairman for this meeting

2. Approval of Agenda

    a. overview of agenda and method of work during the meeting
    b. administrative items

3. FCC 2 GHz Rulemaking in ET Docket No. 95-18 and MSS / FS Sharing Issue□

    a. update and status of the Rulemaking
        - presentation and discussion
    b. WRC-95 results and relationship to Rulemaking
        - presentation and discussion
    c. benefits of industry discussions on the sharing issue in the band 2165 - 2200 MHz
        - discussion
    d. review and status of ITU-R studies and relationship to Rulemaking
        - presentation and discussion

4. New Simulation Software for Interference Analysis

    a. description of Simulation Software
        - presentation and discussion
    b. demonstration of Simulation Software
        - discussion

5. Issues to be Addressed and Information to be Exchanged

    a. system performance objectives for fixed service operations
        - ITU-R studies and recommendations
        - U.S. system operators

    b. interference Criteria
        - ITU-R studies and recommendations
        - U.S. system operators

6. Perform Interference Assessment Examples
   [for demonstration and discussion purposes only]

   a. use new simulation software
   b. use representative cases for MSS and FS systems
   c. discuss results and method

7. How to Proceed Now and During the Next Several Months

   a. agree on necessary working assumptions
      - performance objectives for FS systems
      - interference criteria for FS systems
      - satellite system characteristics
      - other

   b. agree on methodology to be used for interference assessments

   c. case studies to be performed
      - representative cases
      - assumed worst cases
      - randomly selected cases

   d. create Technical Working Group (TWG) to perform case studies
      - TWG works by correspondence and in ad hoc meetings
      - name TWG Coordinator and Members
      - TWG reports results to full group

   e. proposed schedule to conduct work and report results
      - by _____, exchange information among TWG for case studies
      - by _____, run case studies
      - by _____, distribute results to TWG
      - _____, TWG meets to discuss case studies and determine future work
      - full group meets on date _____ to discuss TWG results and future work

8. Other Business

9. Adjourn

B

JWG TR14.11/TR34.1
JOINT WORKING GROUP ON MSS/FS 2 GHz SHARING
August 1, 1996

Meeting Report

1. Welcome and Opening Remarks

The meeting was called to order at 1:05 pm on August 1, 1996 by Tom Brackey, chairman pro tem of TR34. The meeting was held at TIA Headquarters. Attendees are listed on the attached attendance roster (5 pages).

2. Approval of the Agenda

The agenda was approved with no changes

3. Nominations for Chair of the JWG

The question of whether there should be co-chair or a single chair of the JWG was discussed. It was decided that there should be a single chairman and David Carroll was nominated. At this point, David assumed chairmanship of the meeting.

4. Statement of the Problem to be addressed

In order to place the task at hand in perspective, a brief history of the events relating to sharing in the 2 GHz band was presented. This was followed by a discussion of the problem to be addressed, specifically whether it would be possible for the FS and MSS to share the 2 GHz band and if so, under what conditions.

a. scope of Work

The draft Terms of Reference for the JWG are as follows:

1. Study the potential for sharing the band 2165 -2200 MHz between satellite systems operating in the Mobile-Satellite Service (MSS) and microwave systems operating in the Fixed-Service (FS).
2. Determine the conditions under which sharing may be possible and the arrangements necessary, if any, for sharing to occur.
3. Document the essential elements of the study with findings and conclusions

that can be assessed by others not directly involved in the study and produce a Telecommunications Systems Bulletin (TSB) to be published by TIA.
4. Follow the prescribed TIA rules of procedure, Legal Guide, Engineering Manual and other TIA guidance appropriate for the type of product being developed.

5. Organization and Working Methods for the JWG

a. list of active participants
Membership, the list of participants and distribution of documents will be in accordance with to the TIA Engineering Manual.

b. distribution of working documents
There was a discussion on the best method of distributing documents. Electronic distribution is preferred, either e-mail or the TIA BBS. Initially, e-mail will be the preferred method of communicating and distribution of documents although the BBS system will be pursued after details such as passwords have been resolved.. For e-mail distribution, those with documents to be distributed will e-mail them to Thanos who will then broadcast them via e-mail to members.

c. creation of any sub-working groups
Sub-working groups will be created as required.

d. conduct of work by correspondence between meetings
In order to facilitate and expedite the work, contributions will be distributed between meetings so that work may be accomplished by correspondence.

e. schedule of meetings
Meetings will be scheduled monthly, normally to be held at TIA Headquarters. The next two meetings are scheduled for August 16, 1996 and September 16, 1996, both at TIA HQ.

f. decisions by consensus
The goal is to reach consensus on issues. That is, work will continue until substantial agreement is reached by the members. All participants will have an equal voice (vote).

g. type of output from the JWG

The output of the JWG will be a Telecommunications System Bulletin (TSB) which will be submitted to TR-34.2 and TR-14.11 for approval by TR-34 and TR-14 in accordance with TIA procedures. Credit will be given to TR-34.2 and TR-14.11 in the TSB..

6. Discussion on the Work Program and Study Methodology to be Used

It was agreed that prior to the next meeting, the contributions listed below would be distributed to the members for study. At the next meeting, the authors will make a presentation on their contributions and discussion would take place. The goal of this first series of contributions is to begin to develop a clear statement of the problem and identify the way forward. The presentation and discussion of contributions will be in the following order:

a. Historical perspective (Bill Rummler)
b. Characteristics of FS equipment (Phil Salas)
c. Comments on TSB10-F (Sam Nguyen)
d. Description of the ICO system (Jeff Binckes)
e. Methodology for analyzing interference (Tom Sullivan)
f. Exposure to multiple MSS interferers (Tom Sullivan)
g. COMSAT simulation program/methodology (Jeff Binckes)
h. MSS systems in 2 GHz band (COMSAT)

7. Other Business

There was no other business.

8. Date of Next Meeting

The dates of the next two meetings are August 16, 1996 and September 16, 1996. The place of both meetings is TIA Headquarters, Room A2.

9. Adjourn

The meeting was adjourned at 4:00 pm. The meeting was conducted in accordance with the TIA Legal Guide and TIA Engineering Manual.

David R Carroll

JWG TR-14.11/TR-34.2
JOINT WORKING GROUP ON MSS/FS 2 GHz SHARING
August 16, 1996

Meeting Report

1. Welcome and Opening Remarks

The meeting was called to order at 9:00 AM by Chairman, David Carroll. Shazia Azhar confirmed the status of the chairman in light of the fact that the chairmen of the parent committees, TR-34 & TR-34.1, are still in an acting status.

Five of the eight member companies were present, constituting a quorum. Attendees are listed in the attached attendance roster (3 pages)

2. Approval of the Agenda

The agenda was approved after the addition of two agenda items. These were 3a, Special Policy for Fee for participation and 3b, Distribution of Documents.

3. Approval of minutes of August 1, 1996 meeting

The minutes were approved as written.

3a. Special Policy for Fee for participation

Susan Hoyler reviewed the TIA policy on membership, participation in Engineering Committee activities and the special policy for participation in this Joint Working Group. Susan distributed a description of the policy which included the $60 per meeting fee for participants who are not TIA members and who have not paid the non-member engineering committee fee.

3b. Method of distributing documents.

Sergio Salcedo described the method of distributing documents as follows: Documents are to be saved in Word 2.0 and attached to an e-mail to Chris Ramey. Chris will then reflect the document to the meeting participants. In addition, documents can be posted in a file library on the TIA BBS for access by members. Sergio distributed a handout describing the BBS system. Sergio's e-mail address is ssalcedo@tia.eia.org. His phone is 703 907-7718.

4. Presentation and discussion of contributions
   a. Historical perspective, TR-34.2/96/001 (Bill Rummler)
   b. Characteristics of FS equipment, TR-34.2/96/002 (Phil Salas)
   c. Comments on TSB 10F, TR-34.2/96/003 (Sam Nguyen)
   d. Description of ICO system, TR-34.2/96/004 (Jeff Binckes)
   e. Methodology for analyzing interference, TR-34.2/96/005 (Tom Sullivan)
   f. Exposure to multiple MSS interferers, TR-34.2/96/006 (Tom Sullivan)
   g. COMSAT simulation program/methodology, TR-34.2/96/007 (Jeff Binckes)
   h. MSS systems in 2 GHz band, TR-34.2/96/008 (COMSAT)

Contributions a, b, d, e & f were presented and discussed. Contributions c, g & h were deferred until the September meeting.

The only action item which arose from the discussions of agenda item 4 was to add the issue of interference from FS transmitters into the MSS Mobile Earth Stations in the "Terms of Reference."

5. Discussion on the Work Program and Study Methodology to be Used
   a. Further information exchange required
   b. Consensus on study methodology to be employed
   c. Type of analytical tools to be used

It was agreed that additional work must be done to establish an appropriate methodology. In this regard, it was agreed that all members will identify issues relating to the methodology which would need to be resolved. An example is the fading model to be applied to the FS links.

6. Correspondence activity required before next meeting

It was agreed that the following correspondence would be distributed prior to the next meeting:

   a. Draft outline of the TSB which the joint working group intends creating as its output document (Ed Drocella)
   b. Issues relating to agreement on a study methodology (all)
   c. Preliminary sharing analysis suggested by Dan Collins

7. Other Business

It was announced that Ed Drocella will be Editor for the JWG.

8. Date of Next Meeting

The next meeting will be held on Monday, September 16, 1996 at TIA Headquarters, Room A..

9. Adjourn

The meeting was adjourned at 3:30 PM.

Document Register

Committee: TR-34.2/TR-14.11 JWG Year: 1996

Doc No	Title	Source
TR-34.2/96/001	Historical perspective	AT&T
TR-34.2/96/002	Characteristics of FS equipment	Alcatel
TR-34.2/96/003	Comments on TSB 10F	COMSAT
TR-34.2/96/004	Description of ICO system	COMSAT
TR-34.2/96/005	Methodology for analyzing interference	Sullivan Telecom Associates
TR-34.2/96/006	Exposure to multiple MSS interferers	Sullivan Telecom Associates
TR-34.2/96/007	COMSAT simulation program / methodology	COMSAT
TR-34.2/96/008	MSS systems in 2 GHz band	COMSAT

JOINT TR-34.2/TR-14.11 WORKING GROUP MEETING
ATTENDANCE ROSTER
AUGUST 16, 1996

Name	Company	Address	Phone/Fax	E-Mail
Binckes, Jeff	Comsat Mobile Communications	6560 Rock Spring Drive Bethesda, MD 20817 Attn. Spectrum/Standards Rm. 5604	301-214-3263 301-214-7226	jeffrey.binckes@comsat.com
Brackey, Thomas	Hughes Electronics	Building 510, M/S S312 P.O. Box 92919 Los Angeles, CA 90009	310-364-7017 310-364-7004	tabrackey@ccgate.hac.com
Carroll, David	Motorola	2501 S. Price Rd. Chandler, AZ 85248	602-732-4918 602-732-2305	david_carroll@email.mot.com
Clegg, Andrew	Comsearch	2002 Edmund Halley Dr. Reston, VA 20191	703-620-6300 703-476-2623	aclegg@comsearch.com
Collins, Dan	Edwards & Kelcey Wireless	299 Madison Ave. Morristown, NJ 07962	201-267-8830 201-829-0251	ekwireless@aol.com
Drocella, Ed	NTIA	179 Admiral Cochrane Drive Annapolis, MD	202-482-1652 202-482-4595	edrocella@ntia.doc.gov
Durrani, Saj	CSC	10110 Aerospace Rd. Seabrook, MD 20706	301-794-1544 301-552-3272	sdurrani@cscgt.gsfc.nasa.gov
Eneberg, Jonas	ICO Global Communications	c/o Inmarsat 99 City Road London EC1Y 1AX U.K.	+44 171 728 1475 +44 171 728 1174	jonas_eneberg@inmarsat.org
Falkenthal, Kam	Bellcore/NSMA	444 Hoes Lane Room 1A116 Piscataway, NJ 08854	908-699-7744 908-336-3490	kfalkent@notes.cc.bellcore.com
Fitzgerald, James	Comsearch	2002 Edmund Halley Dr. Reston, VA 20191	703-476-2661 703-476-2727	jfitzger@comsearch.com
Guard, Dennis	UTC	1140 Connecticut Ave. NW Suite 1140 Washington, D.C. 20036	202-331-9495 202-872-1331	dennisg@freqcord2.utc.org

Irion, Karyl	TIA	2500 Wilson Blvd. Arlington, VA 22201	703-907-7749 703-907-7727	kirion@tia.eia.org
Karty, Steven	National Communications System	701 South Courthouse Rd. Arlington, VA 22204	703-607-6188 703-607-4830	kartys@ncr.disa.mil
Keller, Thomas	Verner Liipfert Law Firm for Association of American Railroads	901 15th St. NW Washington, D.C. 2005	202-371-6060 202-371-6279	keller@idi.net
Lye, William	Bellsouth Mobility DCS	3353 Peachtree Rd. NE Atlanta, GA 30336	404-841-1239 404-841-2075	blye@pcs.bls.com
Mottola, John	Lockheed Martin Federal Systems	9500 Godwin Dr. Manassas, VA 20110-4157	703-367-3133 703-367-2229	john.mottola@imco.com
Nguyen, Sam	Comsat	6560 Rock Spring Drive Bethesda, MD 20817	301-214-3265 301-214-7226	sam.nguyen@comsat.com
Nguyen, Thu	Radio Dynamics	13147 Hutchison Way Silver Spring, MD 20906	301-933-3471 301-933-1398	thu@radyn.com
Parker, John	Transfinit Systems LTD	17-21 George St. Croydon CRO ILA England	+44 181 681 1981 +44 181 688 5859	100714.1213@compuserve.com
Ramsay, Brian	Iridium	1575 I St. NW Room 540A Washington, D.C.	202-326-5706 202-408-0044	brian_ramsay@iridium.com
Rappoport, Gene	AT&T	900 Route 202/206 Room 5A210 Bedminster, NJ 07921	908-234-6230 908-234-8681	rappoport@attmail.com
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Ryan, Ken	Comsearch	2002 Edmund Halley Dr. Reston, VA 22091	703-848-2685 703-848-2727	kryan@comsearch.com
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Sullivan, Thomas	Sullivan Telecommunications Associates	20263 Colchester Rd. Philomont, VA 20131	540-338-1878 540-338-1879	tsulliv@pop.erols.com
Weinrich, David	Globalstar	10004 Lewisdale Rd. Ijamsville, MD 21754	301-607-4165 301-607-4178	weinreich@lanzwon.com
Wilding, Les	Bellsouth Mobility DCS	3353 Peachtree Rd. NE Atlanta, GA 30336	404-841-4458 404-841-2075	lwilding@pcs.bls.com
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Zoufonoun, Ranin	Western Multiplex	300 Harbor Blvd. Belmont, CA 94002	415-413-4272 415-592-4249	

D

JWG TR14.11/TR34.2
JOINT WORKING GROUP ON MSS/FS 2 GHz SHARING
September 16, 1996

AGENDA

1. Welcome and Opening Remarks
1a. Determination of quaroum

2. Approval of the Agenda

3. Approval of minutes of August 16, 1996 meeting

4. Presentation and discussion of contributions
   a. Outline of output document (Ed Drocella)
   b: List of methodology issues (Contributors)
   c. COMSAT simulation program/methodology (Jeff Binckes)
   d. Comments on TSB 10F (Sam Nguyen)
   e. MSS systems in 2 GHz band (COMSAT)
   f. Other contributions which might be received

5. Study Methodology and Analysis Tools
   a. Study methodology to be employed
   b. Analytical tools to be adopted

6. Correspondence activity required before next meeting

7. Other Business

8. Date of Next Meeting

9. Adjourn

JWG TR14.11/TR34.2
JOINT WORKING GROUP ON MSS/FS 2 GHz SHARING
September 16, 1996

Meeting Report

1. Welcome and Opening Remarks

1a. Determination of quorum

The meeting was called to order at 9:00 AM by the chairman, David Carroll. Five of the eight member companies were present, constituting a quorum (see attachment 1, Quorum List) Attendees are listed in the attendance roster which was distributed at the meeting.

2. Approval of the Agenda

The agenda was approved after the addition of four agenda items. These were 4b2, Potential Propagation Models, 4c2, Draft Annotated Outline, 4c3, Simple Analysis and 4e2, ICO Orbital Parameters..

3. Approval of minutes of August 16, 1996 meeting

The minutes were approved as written.

4. Presentation and discussion of contributions

The following contributions were presented and discussed:

a. Outline of output document

The outline of the document was accepted with the incorporation of sections covering the interference case of the FS transmitters into the MSS MES. It was reiterated, however, that this interference case is secondary to that of the MSS downlink into the FS receivers and consideration of this case should not detract from the primary effort.

b2. List of methodology issues & Potential Propagation Models

It was agreed that whatever propagation model is adopted for this study, it should meet certain criteria. These are that it be in the public domain and there be no cost associated with using it, that it be an industry standard and it be programmable.

It was further agreed that the appropriate model for this study is TSB-10F for the case of the MSS downlink into the FS receiver while the TIREM model is appropriate for the FS transmitter into the MSS MES case. If it is found necessary to modify the 10F model as we progress, that will be done.

c1. COMSAT simulation program/methodology

It was agreed that even though the ICO system is forming the basis for this sharing study because the parameters of the ICO system have been made available, all MSS systems filed or expected to be filed in the 2 GHz band must be included in order for the study to be valid.

c2 Draft Annotated Outline

The proposed draft annotated outline is for the simulation & analysis section of the output document. As such, it will have to be incorporated into the overall outline.

c3 Simple, Preliminary Analysis

d. Comments on TSB 10F

The intent of this contribution was to seek clarification of certain of the parameters of Bulletin 10F which are applicable to the sharing study. It was agreed that this clarification would be obtained on an item by item basis as needed for the analysis.

e. ICO Orbital Parameters

These orbital parameters for the ICO system were made available to supplement the system parameters previously presented.

5. Study Methodology and Analysis Tools
   a. Study methodology to be employed
   b. Analytical tools to be adopted

   At this point in the sharing study, detailed information on the Fixed Service systems and one MSS system, ICO, have been presented and discussed. Candidate propagation models have been discussed and decided upon. Study and analysis methodologies have been presented and discussed although further discussion is required to reach consensus on the appropriate methodology. At this point, it will be necessary to focus on finalizing the methodology and initiating the simulation and analysis.

6. Correspondence activity required before next meeting

   Because of the long time period before the next meeting, it is necessary to make progress via correspondence before the next meeting. It is expected that progress may be made on the methodology and additional refinement of the simulation may be made before the next meeting. In addition, the simple, preliminary analysis will be reviewed and further refined and work on extending this simplified analysis to the case of interference from the FS to MSS MES case will be started.

   In order to begin this analysis of the FS to MSS MES, parameters of the MES must be available. Tom Sullivan will provide the information in REC 847 which is now in coordination.

7. Other Business

   There was no other business

8. Date of Next Meeting

   The next meeting will be held on Wednesday, November 20, 1996 at TIA Headquarters, Room 3A..

9. Adjourn

The meeting was adjourned at 3:30 PM. This meeting was conducted in accordance with the TIA Legal Guide and TIA Engineering Manual.

Document Register

The Document Register is attached (attachment 2)

/Signature/
David R Carroll, Chair TR-34.2/TR-14.11 JWG